AMENDMENT TO THE DRAWINGS

Please replace the present drawings, Figs. 1A - 4B, with the enclosed set of formal drawings, Figs. 1A - 4B. The Applicant submits that the replacement drawings correct the visibility problems pointed out by the Examiner.



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## REMARKS

Claims 10-12 have been considered on the merits by the Examiner and rejected as anticipated by or obvious over the prior art. Other issues with the Drawings and the Specification have been recited by the Examiner.

Applicant is amending claims 10 and 12 as indicated above. The Applicant is also adding new claims 20-26. The Applicant's comments and arguments as to the rejections and support for the newly added claims are given in the following Remarks. The rejections are respectfully traversed and reconsideration is requested.

### Restriction Requirement

Applicant acknowledges that the claims being considered on the merits at this time, with traverse, are those of Group II, amended claims 10-12, directed to a pharmaceutical composition. Claims 10-12 have been amended so they are no longer directed to a product defined in terms of the process for making the same.

Newly added claims 20-22 are directed to a mammalian amniotic membrane extract "consisting essentially of a powdered form of a lyophilized mammalian amniotic membrane homogenate supernatant." Independent claim 20 is exactly equivalent to the "mammalian amniotic membrane extract" defined in claim 10. Applicant stipulates that the the same basis for patentability applies to claim 10 and to claim 20; in other words, the patentability of claim 10 *depends* on the patentability of claim 20. Thus, Applicant submits that claims 20-22 are properly included within the elected restriction group, Group II.



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In addition, Applicant requests that, when allowable subject matter is indicated, the remaining, withdrawn claims be rejoined as being directed to the extract of claim 20 *in a kit* (Group IV), a *method of making* the extract of claim 20 (Group I) and a *method of use* for the composition of claim 10 (Group III) as required by MPEP § 821.04(a and b). Applicant has amended the withdrawn claims where appropriate (as required by MPEP § 821.04), using the claim identifier (Withdrawn/Currently Amended).

Drawings

New formal drawings are submitted herewith in response to the Examiner's comments that Figs. 1-3 as filed were not sufficiently visible.

Specification

The specification has been amended to provide a new title as required by the Examiner.

At page 3 of the Action, the Examiner stated that "[t]he current claimed invention does not specifically use a human amniotic membrane. Appropriate revision is required." This comment is not understood. As is recited in the application, e.g., at p. 2, lines 31-32, the amniotic membrane used as the starting material in preparing the extract and the composition according to the invention is obtained from a pregnant mammal, such as a pig, cow, horse or *human*" (emphasis added). In addition, it is recited in EXAMPLE I at p. 11, lines 12-16, "[i]n an exemplary isolation procedure, the amniotic membrane was removed from a pregnant *woman* [i.e., a *human* woman] in the operating room, at the moment of Caesarian parturition" (emphasis



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added). Thus, Applicant submits that the current claimed invention *does specifically use a human amniotic membrane* and that the Applicant is entitled to claim the same. Supposing that the Examiner might wish the Applicant to emphasize that the amniotic membrane used is "mammalian," claims 10 and 12 have been amended to reference a "mammalian" amniotic membrane.

Rejections under 35 U.S.C. § 102(b)

Claims 10-12 have been rejected as anticipated by Wang et al. (US 5,932,205). This rejection is respectfully traversed and reconsideration is requested.

Applicant's independent claim 10 was previously written as a product-by-process claim. Claim 10 has been amended to define the recited mammalian amniotic membrane extract composition, not as a product-by-process but, instead, as a "preparation consisting essentially of a powdered form of a lyophilized amniotic membrane homogenate supernatant in a pharmaceutically acceptable carrier." Applicant submits that the claimed composition is now no longer defined as a product-by-process.

In the Office Action, the Examiner has stated that pending claims 10-12 are rejected as anticipated by Wang et al., US Pat. No. 5,932,205. The Examiner points specifically to Examples 1 and 6 in Wang et al., stating:

> Wang et al. teach a pharmaceutical composition comprising an amniotic membrane extract in PBS solution (ophthalmic solution) (Example 1) and contact lens as a pharmaceutically acceptable carrier which is treated with the amniotic membrane extract in PBS solution (Example 6).



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With respect, Applicant submits that the Examiner has misunderstood the teachings of Wang et al. Accompanying this response is the Declaration of the inventor, Dr. Emiliano Ghinelli addressing the teachings of Wang et al. At pp. 3-5 of the Declaration, Dr. Ghinelli states:

> 7. In my opinion as one of skill in the use of amniotic membrane preparations, the products described in Wang et al. are not at all like the products claimed in the instant application. To repeat, in one format, my novel formulation is "a pharmaceutical composition that includes a therapeutically effective amount of an amniotic membrane *extract* preparation (AMX) consisting essentially of a *powdered form* of a *lyophilized* amniotic membrane *homogenate supernatant reconstituted* in a pharmaceutically acceptable carrier." All of the words I have italicized provide important points of distinction between my invention and the products taught in Wang et al.
>
> 8. *"Extract"* - In the products of my invention, the therapeutically important factors of the amnion have been "extracted" from the cellular and intracellular debris, the physical structure of the membrane. However, in Example 1 of Wang et al., the amniotic membrane is not even truly broken up but only cut into pieces. The PBS solution mentioned in this Example is used only for washing the membrane, not as a "carrier" as it can be for my reconstituted extract.
>
> 9. *"Homogenate supernatant"* - For my invention, this term is the companion to *"extract."* The physical form of the amniotic membrane processed to product my extract is the *"supernatant"* of a centrifuged *"homogenate"* of the membrane, *"homogenate"* being a term meaning the result of a process that breaks up a solid material into a "homogeneous" product. In none of the examples of Wang et al., and in particular, neither in Example 1 nor Example 6, is there disclosed a *"homogenate"* as that term is known to those of skill in the art, and, most particularly, a *"homogenate supernatant"* is not taught



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nor suggested as the "concoction" of Wang et al. is never centrifuged.

10. *"Lyophilized powder"* - One of the most important properties of AMX, my novel amniotic membrane extract, is that it can be stored for much longer periods of time than prior art products. Furthermore, it can be reconstituted in a carrier to form a therapeutic composition in a *quantitative* manner, i.e., so that the concentrations of the therapeutic factors are known. These properties derive from the fact that my novel extract is in *"lyophilized powder"* format, which can then be reconstituted in the manner most appropriate for the specific application. There is no teaching in any of the examples of Wang et al., including no teaching in Examples 1 and 6, of this format for an amniotic membrane preparation, a format that is central to my novel formulation.

Dr. Ghinelli goes on to describe the advantages his "novel formulation" provides when used as a therapeutic composition, stating at pp. 2-3:

5. As it is based on a homogenate supernatant, the novel amniotic membrane formulation of the invention has been rid of cellular and intracellular debris. Yet, all of the important therapeutic factors determined by others to be present in an amniotic membrane are also present in the formulation of the invention. These factors can not only be detected but also quantitated. Furthermore, as AMX is a homogeneous powder, the extract can be reconstituted in a pharmaceutically acceptable carrier at the concentration desired for a particular application, e.g., as in the original membrane or several times more concentrated than the original membrane to treat diseases not treatable by others using previously known amniotic membrane preparations. Thus, the amniotic membrane extract formulation according to the invention has the healing properties of amniotic membrane tissue, but at an enhanced level, and can be used as described in the instant application without the need for costly surgery.



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Thus, Applicant submits that Wang et al. does not teach all of the limitations of the claimed invention and that the rejection for anticipation has been overcome.

Rejections under 35 U.S.C. § 103(a)

Claims 11 and 12 have been rejected as obvious over Wang et al. in view of Carlsson et al. (US 6,117,857). This rejection is respectfully traversed and reconsideration is requested.

Applicant had described above the deficiencies of Wang et al. These deficiencies are not cured by a combination of Wang et al. with Carlsson et al. Thus, Applicant submits that the combination of Wang et al. with Carlsson et al. neither teaches nor fairly suggests all the limitations of the Applicant's claims and the rejection for obviousness is overcome.



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For the reasons indicated above, Applicant submits that all pending claims are in condition for allowance and such action is requested.

The Examiner is strongly encouraged to telephone the undersigned attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

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